

CLAIMS

1. A hydraulic antivibration device comprising a first attachment fitting, a cylindrical second attachment fitting, a vibration-isolating base connecting the second attachment fitting and the first attachment fitting to each other and composed of a rubber-like elastomer, a diaphragm attached to the second attachment fitting to form a liquid-filled chamber between the diaphragm and the vibration-isolating base, a partition comparting the liquid-filled chamber into a first liquid chamber on the vibration-isolating base side and a second liquid chamber on the diaphragm side, and an orifice putting the first liquid chamber and the second liquid chamber into communication with each other, the partition including an elastic partition membrane and a pair of lattice members regulating the displacement amount of the elastic partition membrane from both sides thereof, which device is characterized in that rib groups are provided projectingly on both faces of the elastic partition membrane, and include a plurality of first ribs and a plurality of second ribs existing in a mutually mingled fashion, wherein the first ribs are set in height dimension so that tops thereof may be situated to be spaced apart from the lattice members; and the second ribs are set in height dimension so that tops thereof may abut on the lattice members and in a rib width smaller than the first ribs.
2. The hydraulic antivibration device as set forth in claim 1, characterized in that the first ribs are disposed on the faces of the elastic partition membrane so as to be capable of surrounding lattice holes every a predetermined number of them; and the second ribs are disposed on the faces of the elastic partition membrane in a distributed manner.
3. The hydraulic antivibration device as set forth in claim 2, characterized in that the lattice holes are disposed in a plurality of rows in the circumferential direction of the lattice members; said plurality of the first ribs are formed in an annular form and configured to be capable of abutting on respective lattice member portions on radially both sides of respective lattice hole rows of the lattice members; and said plurality of the second ribs are disposed in a radial fashion relative to an axis center of the elastic partition membrane.
4. The hydraulic antivibration device as set forth in claim 1, characterized in that the first ribs and the second ribs are disposed on the faces of the elastic partition membrane so as to be capable of surrounding lattice holes every a predetermined number of them.
5. A hydraulic antivibration device comprising a first attachment fitting; a cylindrical second attachment fitting, a vibration-isolating base connecting the second attachment fitting and the first attachment fitting with each other and composed of a rubber-like elastomer, a diaphragm

attached to the second attachment fitting to form a liquid-filled chamber between the diaphragm and the vibration-isolating base, a partition comparting the liquid-filled chamber into a first liquid chamber on the vibration-isolating base side and a second liquid chamber on the diaphragm side, and an orifice putting the first liquid chamber and the second liquid chamber into communication with each other, the partition including an elastic partition membrane, a cylinder portion accommodating the elastic partition membrane, and a pair of lattice members regulating the displacement amount of the elastic partition membrane within the cylinder portion from both sides thereof,

which device is characterized in that the one lattice member of the pair of lattice members is provided to link integrally with the cylinder portion between inner peripheral faces of the cylinder portion; and

the elastic partition membrane is provided on both faces thereof with a plurality of ribs capable of surrounding lattice holes every a predetermined number of them.

6. The hydraulic antivibration device as set forth in claim 5, characterized in that a plurality of auxiliary ribs are disposed on both faces of the elastic partition membrane in a distributed manner;

said ribs are set in height dimension so that tops thereof may be situated to be spaced apart from the lattice members; and

said auxiliary ribs are set in height dimension so that tops thereof may abut on the lattice members and in a rib width smaller than the ribs.

7. The hydraulic antivibration device as set forth in claim 6, characterized in that the lattice holes are disposed in a plurality rows in the circumferential direction of the lattice members;

said plurality of ribs are configured in an annular form so that they may abut on portions of the lattice members on radially both sides of the respective lattice hole rows of the lattice members;

said auxiliary ribs are disposed in a radial fashion relative to the axis center of the elastic partition membrane.

8. A hydraulic antivibration device comprising a first attachment fitting, a cylindrical second attachment fitting, a vibration-isolating base connecting the second attachment fitting and the first attachment fitting with each other and composed of a rubber-like elastomer, a diaphragm attached to the second attachment fitting to form a liquid-filled chamber between the diaphragm and the vibration-isolating base, a partition comparting the liquid-filled chamber into a first liquid chamber on the vibration-isolating base side and a second liquid chamber on the diaphragm side, and an orifice putting the first liquid chamber and the second liquid chamber into communication with each other, the partition including an elastic partition membrane and a pair of lattice members regulating the displacement amount of the elastic partition membrane from both sides thereof,

which device is characterized in that the elastic partition membrane has a first displacement-

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regulating protrusions provided on one face side thereof and a second displacement-regulating protrusions provided on the other face side thereof or on the lattice member opposing the other face side in a projecting manner;

the first displacement-regulating protrusions are disposed in an asymmetric position to the second displacement-regulating protrusions relative to a phantom plane passing through a center of the elastic partition membrane in its thickness direction.

9. The hydraulic antivibration device as set forth in claim 8, characterized in that the second displacement-regulating protrusions are provided on the other face side of the elastic partition membrane.

10. The hydraulic antivibration device as set forth in claim 8 or 9, characterized in that at least part of the second displacement-regulating protrusions are disposed in plural number in a radial fashion relative to an axis center of the elastic partition membrane;

at least part of the first displacement-regulating protrusions are disposed, in a substantially intermediate position between a pair of said second displacement-regulating protrusion disposed radially and mutually adjacently, in a radial fashion relative to the axis center of the elastic partition membrane.

11. The hydraulic antivibration device as set forth in claim 9, characterized in that of the first displacement-regulating protrusions and the second displacement-regulating protrusions, respective n pieces of them are disposed in a radial fashion relative to the axis center of the elastic partition membrane and substantially equidistantly in the circumferential direction of the elastic partition membrane;

the first displacement-regulating protrusions are disposed to deviate circumferentially to the second displacement-regulating protrusions by a rotation angle of ca. π/n , and the first displacement-regulating protrusions and the second displacement-regulating protrusions are configured in substantially the same protrusion height and the same protrusion width.

12. The hydraulic antivibration device as set forth in any one of claims 8 to 11, characterized in that the first displacement-regulating protrusions and the second displacement-regulating protrusions are set in such a height that tops of them can abut on the lattice members or the elastic partition membrane.

13. The hydraulic antivibration device as set forth in any one of claims 8 to 12, characterized in that the elastic partition membrane is provided on one face side and the other face side thereof with auxiliary protrusions;

the auxiliary protrusions are configured in a lower protrusion height and a narrower protrusion width than at least the first displacement-regulating protrusions.

14. The elastic partition membrane characterized by employment for the hydraulic antivibration device as set forth in any one of claims 1 to 13.

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ART 34 AND 1

Statement under Article 19 (1)

New Claim 6 is amended by incorporating the subject matter of Claim 5 into Claim 6 both of the originally filed application.

We might mention that we have received the Written Opinion of the International Searching Authority, wherein it is indicated that the invention relating to Claim 6 of the originally filed application "is neither described in any references cited in the International Search Report nor obvious to those skilled in the art". Therefore we are convinced that the new Claim 6 in the amended form thus prepared by adding the subject matter of the original Claim 5 to the original Claim 6 on file will also receive the observation that it is neither disclosed in any references cited in the International Search Report nor obvious to those skilled in the art.

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